MODULATION

AND

RELATED HARMONIC QUESTIONS

ARTHUR FOOTE

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AND RELATED HARMONIC QUESTIONS

BY

ARTHUR FOOTE

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In Memory of

JOHN KNOWLES PAINE

PREFACE

The author has endeavored to set forth a statement of the various means of modulation found in music from Bach to the present time; such problems as are offered by certain composers of the past few years, however, have not been dealt with, for in their works tonality is of set purpose made increasingly negligible, the question of modulation *per se* (as it has always been conceived) not being of importance. Illustrations from composers of all periods show the practical application of principles.

Harmonic questions are discussed at length in so far as they are concerned with the matter in hand, not having been entered into purely for their own sake; in the first chapter detailed explanation is also given of some fundamental, though often imperfectly understood, points with regard to scales and key-relationship (since comprehension of and ability in modulation presuppose thorough knowledge with regard to these matters). Chapters X and XI touch directly but little upon real modulation, though covering subjects that are extremely important as aids thereto.

Exercises, to be both written, and played at sight, are added to the chapters on V^7, $VII^{\circ 7}$, and $6+$, $\frac{6+}{5}$, and $\frac{6+}{4+}$, while a collection of modulations made from a given major and minor key to all others will be found at the end of the book; in these it has been intended to avoid the purely mechanical, however correct it might be, and to offer only such productions as are reasonably musical.

Brookline, Massachusetts, *May*, 1918.

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MODULATION

CHAPTER I

SCALES AND KEY RELATIONSHIP

1. Without an exact and thorough knowledge of scales and of key relationship it is impossible to understand modulation.

The major scale, being unvarying in all keys as to steps and half-steps, offers no difficulty (§4, the Circle of Fifths). The different forms of the minor scale, however, often produce misunderstanding; without going into the question as to how and when these variations came to exist, the following shows the facts as they are today.

2. (*a*) and (*d*) correspond with the Æolian mode (thus being a survival from the old modal scheme, in which there was neither leading-tone, key relationship nor modulation). The introduction of the leading-tone resulted in (*b*) and (*e*), while the smoother and more singable form of (*c*) arose through the raising of the 6th degree a half step, the descending scale (*f*) corresponding to (*c*) being also used freely at one time. (*a*) and (*d*), though without the distinctive character of a minor scale which is furnished by the leading-tone, being indeed identical with the scale of C starting with the note a (note below), are much used melodically and in scale passages; in such cases the key will probably be defined by the underlying chords (either expressed or inferred).

NOTE. Large capital letters indicate major keys and scales, small letters in italics being used for minor ones, while small letters not in italics mean individual notes (*e.g.* C, *a*, b). Large figures indicate major triads and other chords having a major 3d (IV, V^7), small figures meaning chords with a minor 3d (II^7, VII^7), and the diminished 7th chord being marked VII^{o7}; the usual figured bass indications are used, augmented intervals being marked by a + $\binom{6+}{5}$ and doubly augmented ones by ++ $\binom{6+}{4++}{3}$.

The scales (*b*) and (*e*) leave us in no doubt as to the key, nor do they need for that any assistance from chords; (*c*), as an easy and singable form, is more used than (*b*), while also leaving no doubt as to the tonality, but the descending form (*f*) is almost obsolete, though in common use at the Bach-Handel period. (*c*) and (*d*) combined result in the so-called melodic scale, (*b*) and (*e*) the harmonic.

3. As an example of the way in which (*c*) and (*e*) may occur in the same passage as well as of the employment of (*b*) the following extract from Haydn's *Rondo all' Ongarese* will serve.

In the Bach *Chromatic Fantasie* there is an excellent illustration of various ways in which the minor scale appears, the descending scale (*f*) being shown at the end.

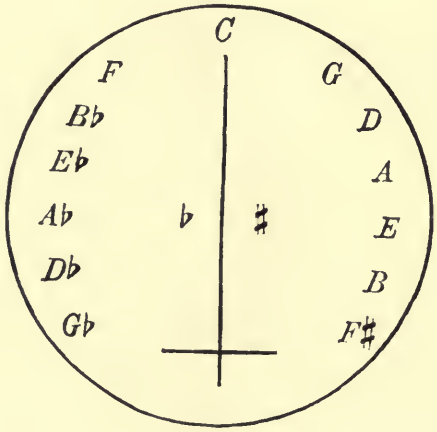
In the following (Schumann: *Paganini Caprice*, No. 1), we have a curious example.

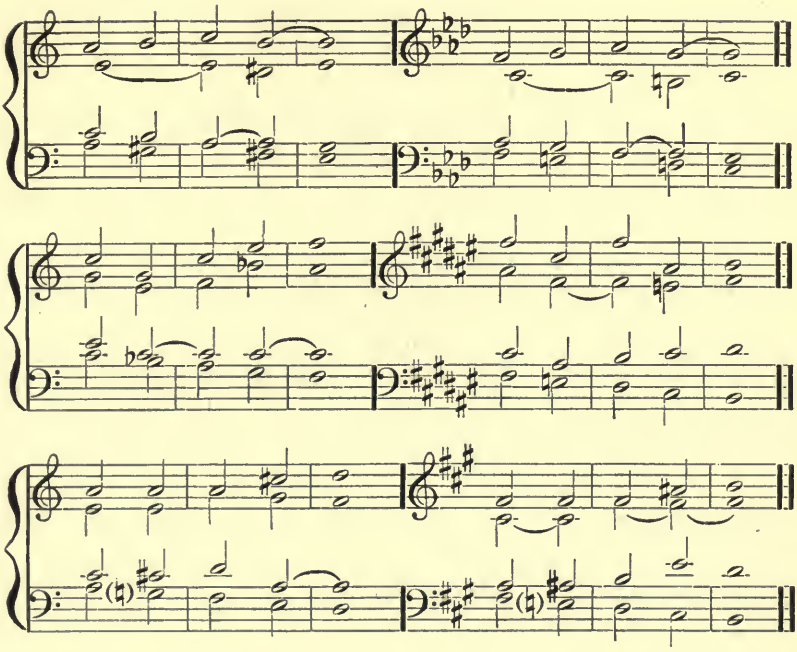
3.

In the next illustrations different forms of the minor scale are used simultaneously, (1) being taken in a harmonic sense and (2) melodically.

4. BACH: "Well Tempered Clavichord," Prelude and Fugue, No. 4

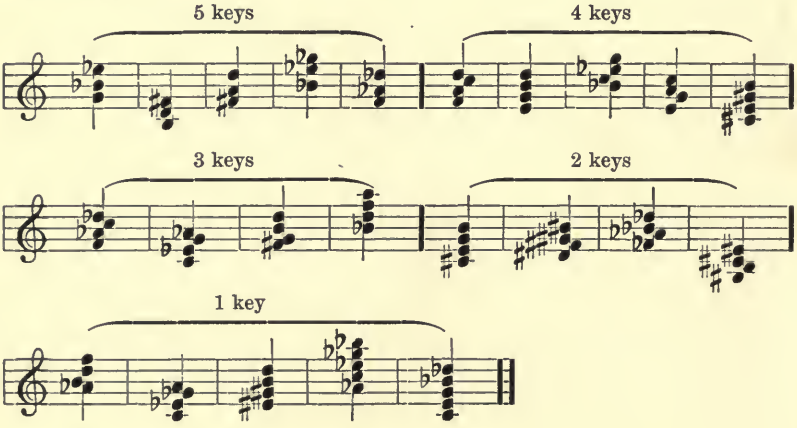
4. Inasmuch as the leading-tone is our main factor in modulation, as well as for determining keys and their relationship, the *Circle of Fifths* of major keys is of great use; *e.g.* by introducing f♯, the leading-tone of G, we can begin a modulation to that key from C (G being the 5th above C and the first ascending 5th shown in the circle below); this process of rising by 5ths can be carried through until the complete circle is made, C being reached again at the termination.





In the following are given instances of how scales actually occur; time will be well spent that is taken for finding their keys: (*e.g.* in the first one we have d♯ and a♯, but not e♯, *i.e.* either the key of B or *g*♯, deciding that the key is B and not *g*♯, because there is an f♯ and not an f𝄪). As will be seen later, confusion may result from chromatically changed non-harmonic notes, especially in figuration and passage work (§19), in which case it is necessary to disentangle the harmonic notes and to construct the scale from them, it being often also the case that there is a chord to help as an indication. In what keys are the following scales?

6. It will be worth while to ascertain in what keys each of the following chords can be found, remembering that while, *e.g.* the triad c-e-g is found in the keys of C, *e*, F, *f* and G, (in other words in five different keys), the V^7 g-b-d-f can belong to but two, while the dominant 9th points definitely to one key. The following chords are grouped according to the number of possible keys in which they may be found (the harmonic form of the minor scale being the only one considered).

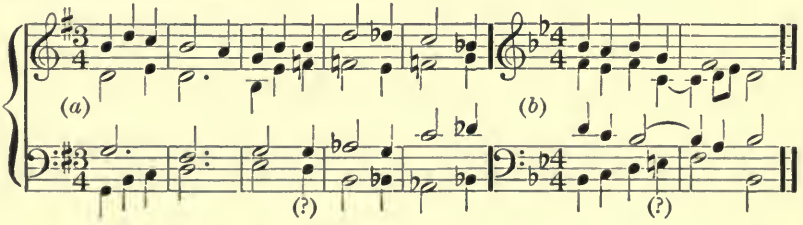


CHAPTER II

MODULATION IN GENERAL

7. This term means that a progression of some kind is made from one key to another by means of certain devices; it is decisive and final only if fixing the new tonality to such a degree that leaving the new key would necessitate another distinct modulation.

8. As will be seen later (Chapter V, *seq.*), there are various means employed in the production of a clearcut modulation (*e.g.* a cadence with V^7). Theorists formerly held that every change of key brought about in such a way was to be considered a modulation, without regard to the length of the progression, and whatever its effect. A broader view is this, — that one which is confirmed by a stay in the new key for a satisfactory length of time is to be regarded as definite and conclusive (*e.g.* No. 43), but in cases such as those shown in Nos. 8, 33, while the modulation may be made in the same manner as is the case with the former, changes of key succeed each other so rapidly as to justify a different classification, these being appropriately termed Transient Modulations. The presence of V^7 presumably indicates a definite key in most instances, but (*a*) its resolution may not be the chord expected but into another key, or (*b*) the V^7 may be an apparent one, *e.g.* really a supertonic 7th chord with an altered 3d, as in the following, in which latter case there is no modulation.



The resolution of such a chord will settle the matter.

A passage of sequential character has thereby a strong feeling of modulation (No. 7).

On the other hand, there is a kind of progression in which chromatic and enharmonic alterations result in passing chords foreign to the main key, which should be regarded purely as such, but not as causing changes of key. In Benjamin Cutter's *Harmonic Analysis* will be found an excellent statement of this point of view: "There is ground for belief that from the time of

Haydn, perhaps from that of Bach, composers have thought it possible to raise and to lower certain scale steps, and to obtain thus non-modulating chromatic harmonies which sound like modulations but do not leave the key. In a piece in C major, for instance, we may find the dominant or diminished seventh of *d* minor, with its resolution, and this followed by C major chords . . . A real modulation is made only when the modulatory process is confirmed by a stay in its evident key; these seeming modulations are only intensifications of triads of the key other than the primary tonic, generally the subordinate triads, accomplished by use of their seventh chords; and these chords or progressions in question are only altered chords, or progressions in the primary key." "In other words, *judge a chord by what it does.*" (§36.)

In the following passage the chords marked × do not at all affect the main key, although some theorists might wrongly explain them in the manner indicated below.

6. GRIEG: Ballade, Op. 24

Among the illustrative excerpts quoted later from various composers, there are many of transient modulation, as well as of successions of chords which do not constitute real modulation, tonality not being fixed by them (*e.g.* No. 77). Nos. 7 and 8 are to be considered as transient modulations; while in No. 9 there is simply a succession of V^7, that causes a rapidly shifting series of harmonies which carry us from C to A♭ (§ 25), the result of such a series being always an inevitable modulation which is finally effected by the last V^7.

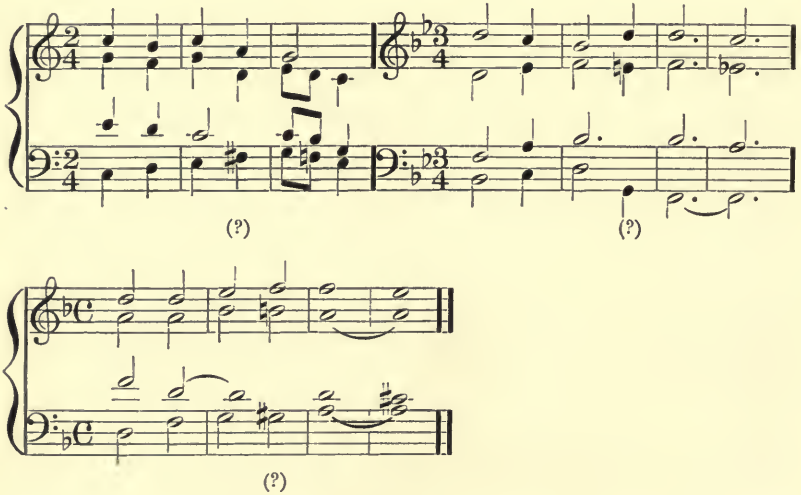
7. BEETHOVEN: Sonata, Op. 14, No. 2

Observe that the fleeting changes are in this one succeeded by a definite final modulation.

8. CHOPIN: Nocturne, Op. 9, No. 1

9. CHADWICK: Scherzino

9. Since some chromatically altered chords are deceptive, seeming, however, at first sight to denote a change of key, care must be taken to distinguish them from such as really produce modulation; they frequently take the form of an apparent V7, VII7, or VII°7, in a new key.



10. The act of modulation implies a *progression*, which nearly always shows alteration of some note or notes belonging to the key which is being left (though not invariably, *e.g.*);

and, on the other hand, it must not be inferred that simply going from the tonic of one key to that of another (even though some note or notes may be chromatically changed in the process), comes under that head. The term does not include this. Modulation may be compared to crossing from one side of a street to the other, to accomplish which the space between must be traversed.

CHAPTER III

CHANGE OF KEYS (OR CHORDS) WITHOUT MODULATION. THIRD-RELATIONSHIP

11. Having briefly touched upon the general subject of modulation, it is well to take up the point referred to in §10, before going further. In substance the matter may be summed up as follows:

A mere succession of keys, especially when the chords are mainly triads or their inversions, does not of itself constitute modulation. It is sometimes hard to draw the line, but a few illustrations will demonstrate this point.

10. SCHUMANN: Concerto

11. WAGNER: "Parsifal"

12. In the preceding there are examples of *third-relationship*, which is almost as strong as that by fifths. We find that the familiar statement as to keys nearest related to a tonic major or minor shows this point conclusively; *e.g.* besides G (the 5th above) and F (the 5th below) we have, as nearly related to C, *a* (the 3d below C), *e* (the 3d below G), and *d* (the 3d below F); as nearest related to *a*, besides E and *e* (the 5th above) and *d* (the 5th below), we have C (the 3d above *a*), G (the 3d above *e*) and F (the 3d above *d*).

Of these illustrations there are in the one from Schumann's Concerto the keys of C, *e* and G, and in that from "*Parsifal*" those of A♭, C♭ and D (=E ♭♭), the change being by thirds. This same principle of inter-relationship by 3ds has also been sometimes carried out in the choice of keys for symphonic movements; *e.g.*, in Raff's "*Lenore*" symphony, in which the keys are E, A♭ (G♯), C and *e*.

This matter of change of key and of simple successions of chords without modulation comes up for further discussion in Chapters X and XI.

12. DEBUSSY: Nocturne

13. MACDOWELL: Idyl, Op. 39, No. 7

In this last illustration there are simple changes of keys (or rather of chords), except that at measures 4-5 there is a progression in which the voices move about by steps and half steps (§36), in such a way as to make what may be fairly considered a modulation, while at measure 8 there is a decided one brought about by VII°7.

13. Change of key may occur by means of so-called "pivot" notes; *i.e.* notes common to two chords, the change taking place at the appearance of the second chord.

14. SCHUBERT: Fantasie Sonata, Op. 78

15. CHADWICK: Pianoforte Quintet

In No. 15 compare the succession of chords (B♭, *b♭*, D♭) with examples given later (§38), in which there are elisions of certain factors; in this illustration from Chadwick a result like that in No. 77 would be obtained by omitting the chord of *b♭*. Both methods give valuable and fresh ways of working outside of the conventional system.

CHAPTER IV

CHANGE OF KEY BY MOVING TO A NEW TONIC A 3D ABOVE OR BELOW

14. This, while coming under the same general head as that covered by Chapter III, is of sufficient importance to warrant separate discussion, which is best introduced by a consideration of the following table based on relationship by thirds.

Some of these (Nos. 1, 2, 5, 7, 8, 11), are entirely commonplace, but the others, in varying degree, are striking in their effect. Illustrations of No. 3 are given in examples 16 and 17; in Nos. 3, 4, 6, 9, 10 and 12 there are elisions of chords; *i.e.* in No. 3 we jump from C to A♭ (eliding *c*), in No. 4 from C to *a*♭ (eliding *c* and A♭), in No. 6 from *c* to *a*♭ (eliding A♭), in No. 9 from C to E♭ (eliding *c*), in No. 10 from C to *e*♭ (eliding *c* and E♭) and in No. 12 from *c* to *e*♭ (eliding E♭). Nos. 4, 6, 10 and 12 are of comparatively recent development (§38).

16. BRAHMS: Rhapsodie, Op. 79

17. Mozart: Fantasia and Sonata in *c*

18. Brahms: Symphony in C minor

19. Liszt: "Les Préludes"

V7 of C:
E♭:
V7 of E♭
F♯(G♭):

20. CHOPIN: Étude, 3 Études, No. 2

CHAPTER V

MODULATION (continued)

15. A modulation is nearly always effected by the introduction of one or more notes foreign to the key which is being left but belonging to that towards which the progression is made; the number of chords, and of note-alterations through accidentals (when the latter are necessary) varying greatly, *e.g.* a modulation from C to G, F, or *a*, requiring few chords and but one accidental, while that from C to *b*♭ should be more gradual. In writing or playing it is desirable that the first key shall be clearly established; in the following, *e.g.* the first chord does not do this strongly, sounding almost like IV of G,

16. Modulations may be classified as Diatonic, Chromatic and Enharmonic; of these the first is the most frequent (in the older music even more so than in that of to-day), while there has been much development of late years in the enharmonic variety, which now possesses greater freshness and interest than do the other two.

In the following examples it will be seen that with the diatonic modulation of (*a*) the notes b and a affected by accidentals are in each case in the scale of the new key, and in the chromatic one (*b*) the accidental f♯ (not being in the scale of either key) results in a chromatically altered chord, while in (*c*) the first chord (×) is enharmonically changed at measure 2.

21. BEETHOVEN. Sonata, Op. 7

22. BEETHOVEN: Sonata, Op. 31, No. 3

23. BEETHOVEN: Sonata, Op. 13

17. While some alteration of notes is usually found in diatonic modulation, that being generally brought about, at least in part, by a change of leading-tone, it is possible to modulate satisfactorily without this means, the result being accomplished by the aid of chords common to both keys, which may for convenience be called *Bridge Chords*. In the first example given in §10, *e.g.* the third chord, being an inversion of the second triad of C and of the fourth triad of *a*, and thus common to both keys, serves as a bridge by which we can pass from one key to the other, while the feeling of the key of *a* is so clearly emphasized by what follows that the leading-tone is not needed to secure a clear modulation. This method is not so common as *e.g.* that of having V or V^7 of the new key mark a definite close, but proves an attractive and often useful alternative.

18. In enharmonic modulations there are chromatic alterations of notes made in such a way as to secure changes of key that are always interesting and often surprising; the device is piquant and subtle, affording opportunity for originality of treatment. Parry defines it as "the translation of intervals which according to the fixed distribution of notes in the modern system" (*e.g.* on the piano keyboard) "are identical, into terms which represent different harmonic relations." Here is a typical illustration, in which use is made of the similarity in sound of V^7 and $\frac{6+}{5}$.

19. While in the majority of cases the key will be evident, especially where V^7 is a factor, passages often occur where there is possible misunderstanding, on account of the number and kind of chromatic alterations; we must then disentangle notes belonging to the key from those foreign to it. Examples will illustrate this, notes not belonging to the key being marked with ×.

24. BACH: Well Tempered Clavichord, Fugue XII

25. CHOPIN, Op. 10, No. 6

In the second of these the e♯ in measure 1 is so written for convenience, being the enharmonic of f♭; in measure 2 g♯ is harmonic, but not so in measure 3.

CHAPTER VI

MODULATION BY MEANS OF V OR V^7

20. This, the plainest and most common form of modulation, is especially used when strength and decision are desired rather than subtlety or freshness. In the modulatory scheme ascending by fifths, when the progression is from one major key to the next (C-G, G♭-D♭), or from one minor key to

the next (*a*-*e*, *e*♭-*b*♭), the beginning is usually made through the entrance of a new leading-tone, that being indicated by an accidental (♯, 𝄪 or ♮); this means is also used when a progression occurs from a major key to a minor one (C-*a*, B-*g*♯, G♭-*e*♭), there being also other accidentals present in some cases (*e.g.* C-*g*). In modulating from a minor key to a major one it is generally the case that the leading-tone of the former will, as the first step, be cancelled by a ♮, ♯, or ♭ (*a*-C, *g*♯-B, *e*♭-G♭). While an authentic cadence in the new key forms the strongest ending in all these cases, it will be observed in (*a*), (*b*) and (*c*) of the following examples that there is no $\frac{6}{4}$, V or V^7, the modulation not thereby losing in definiteness.

(Leading-tones in parentheses.)

21. When the modulation is downward by a 5th, into a key having more flats or fewer sharps, the first step usually taken is to cancel the leading-tone of the first key by a ♮, ♭, or ♯, at which moment another note will automatically appear as the new leading-tone; *e.g.* in the first example following (C-F), the leading-tone (b) of C is cancelled by b♭, the e in the same chord appearing as leading-tone of the new key, F.

22. While the actual process of modulation can be completed by means of diminished 7th chords, augmented chords of the 6th $\left(6+, \frac{6+}{5}, \frac{6+}{4+}{}_{3}\right)$, etc., without the aid of V, V^7 or $I^{\frac{6}{4}}$, these latter are often useful as additions in such cases if it is desired to strengthen the progression, even though the latter be already effected.

As has been pointed out (§10), it is also possible to modulate without any of the above factors, and even without the employment of accidentals.

23. In the case of minor keys a beautiful result can be obtained by a modal ending (*e.g.* v–i), inasmuch as one form of the minor scale is identical with the Æolian mode (§2).

26. Song, "Hame, hame, hame!" (From "Seventy Scottish songs," edited by HELEN HOPEKIRK.)

Here is another interesting ending without $\frac{6}{4}$ or V, and, in character, like the preceding.

27. ELGAR: "Coronation Ode"

24. II^7, VII^7 and VII^{o7} are interesting factors as adjuncts to modulations by V or V^7, sometimes, indeed, also forming the sole means for concluding a progression, as in (*a*) and (*b*).

25. Two well-known chord-successions consist of a series of dominant 7ths (or inversions), and of a series of secondary 7ths, the device, however, being one that must not be carried out at too great length, as it easily becomes tedious. For purposes of modulation the availability of the second series lies in the fact that at any point a chord can be altered by an accidental, the resulting 7th chord consequently being in a new key; with the dominant seventh series it is obvious that a new key can be chosen at any point in the progression.

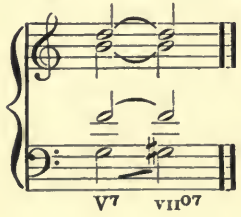
28. HAYDN: Fantasie in C major

Chopin avails himself of this progression in the Étude op. 10, No. 1, measures 37–44.

Similar modulations through note-alterations could be made in No. 29.

29. GRIEG: Gavotte, "Aus Holberg's Zeit"

Another point of interest and one useful in modulation is that the chord V^7 can not only be changed to VII^{07} by raising the bottom note,



but can also resolve in the following ways:

by simultaneously raising the bottom note and lowering any one of the other three a half-step; the opportunities offered are obvious (§37).

In the following illustrations (30–41) are seen typical ways of employing V^7 for modulation.

30. CLAYTON JOHNS: Canzone

31. TSCHAIKOWSKI: "October," Op. 37, No. 10

32. CHOPIN: Etude, Op. 10, No. 12

33. MOZART: Sonata in F major

34. WAGNER: "Die Walküre"

35. STOJOWSKI: Prelude, Op. 1, No. 2

36. WAGNER: "Lohengrin"

37. ROSSINI: "Stabat Mater"

38. HENSCHEL: Song, "Resurrection"

The preceding shows successive chords of V^7, rising step by step; in the right place, as here, an effective progression, as well as one often helpful in modulation.

In the extract from Fauré observe the voice-leading (§36).

39. FAURÉ: Impromptu, Op. 31

26. It is sometimes the case with the modulation by V or V^7 that the composer carries it not only to the new tonic, but beyond, to the dominant of that tonic, then turning back again definitely to the new tonic; or it may even happen that the progression is made to the dominant of the dominant of the first key, without an intermediate step. In the first of the following examples we see a modulation effected from G to D, with a further one

to A, the dominant of D, to which latter key (D), an immediate and final return is made; while in the second one a modulation from E to F♯ is produced by VII°7, after which the key of B finally enters.

40. BEETHOVEN: Sonata, Op. 14, No 2

41. BEETHOVEN: Sonata, Op. 14, No. 1

27. In a similar manner a very satisfactory modulation can be effected in the progression I–IV, after the key desired has been reached, by going one step beyond it to its sub-dominant, and then returning to it, thus closing the modulation definitely; *e.g.* from E♭ to A♭, then a passing progression to D♭ and a final return to A♭.

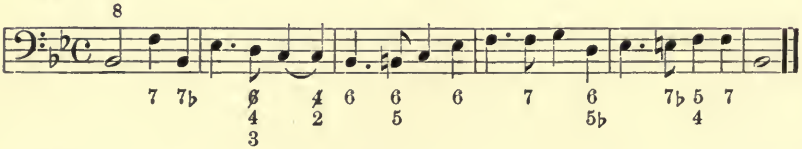
EXERCISES

In which it is expected that all varieties of chords shall be used, and modulations made by V, V7 or an inversion; basses not marked indicate triads, and slurs passing-tones, while a figure 8, 5 or 3 over the first note means that the soprano begins on that interval; a discreet use of appoggiaturas, passing tones, suspensions, etc., is advised. The modulations are mainly transient, being sometimes even less than a measure in length. The exercises should be played at sight as well as written.

3.

4.

5.



6.

7.

8.

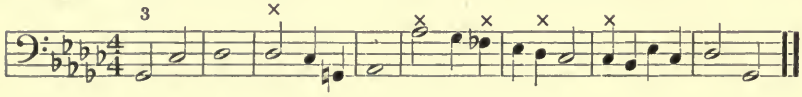
9. (Chant)

10. Open——close

11. (Chant)

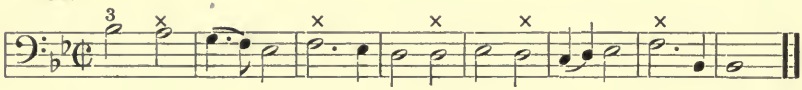
In the following exercises the bass is not figured, and chords of the 6th, 7th, etc., are often required: modulations by V, V^7 or an inversion are marked by a ×.

12.



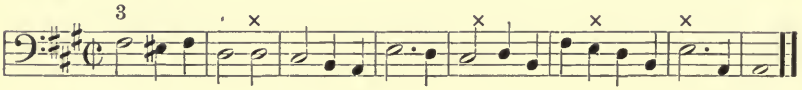
13.

14.



15.

16.



17.

18. (Chant)

19.

20. (Chant)

21.

Soprano melodies; modulations with V or V^7 are marked with ×.

22. (Chant)

23. (Hymn-tune)

24.

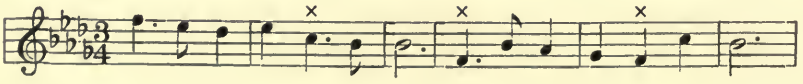
25.

26. (Hymn-tune)

27.

28.

29.



CHAPTER VII

MODULATION BY MEANS OF THE DIMINISHED 7TH

28. This is frequent, being also much used in quickly passing modulations.

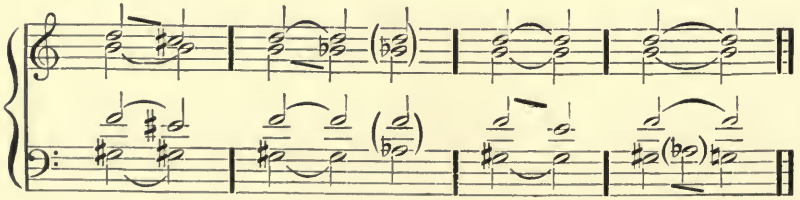
It is often employed in a modulation that is later concluded by V^7, being especially attractive when the progression is from a major to a minor key,

as well as when from one minor key to another.

29. Being an exceedingly ambiguous one, the diminished 7th chord furnishes a natural path for modulation in various directions; so easily, indeed, as to have been employed with too great frequency, with the result that it has lost in freshness. But an illustration such as that below from the quartet of Franck (No. 49) shows it to be still a useful tool. The reader is reminded that its flexibility arises from the fact that what are practically the same sounds can be expressed by various notations, indicating different keys, *e.g.*

And as, besides the usual resolution in these keys, there are other irregular ones, the range of modulation is very large indeed.

Various opportunities for modulation are also given by the changes in tonality that result from lowering any one of the four notes of VII°7; in the following, the second chord in each instance but one allows us to proceed in a new key.



42. CHOPIN: Polonaise, Op. 26, No. 1

43. MOZART: Sonata in F major

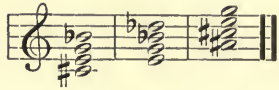
In 43 there is a decisive modulation at ×

44. MENDELSSOHN: Phantasie, Op. 28

45. SCHUMANN: Romanze, Op. 28, No. 2

46. WAGNER: "Tannhäuser" Overture

In No. 46 observe the enharmonic variations and at (*a*) the changes of key by tonics moving a 3d upward (§ 14).



47. LISZT: Song; "Comment disaient-ils?"

Observe that the first VII^{07} is written, not with the expected f𝄪, but with g♮, as referring to the following key of B.

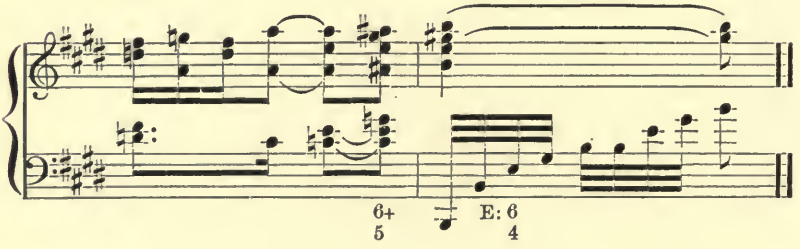
In the illustration from "*Les Préludes*" there is a fresh and interesting change from successive VII^{07} to a modulation into *e* at the 8th measure.

48. LISZT: "Les Préludes"

49. CÉSAR FRANCK: String Quartet

50. STANFORD: "Phaudrig Crohoore"

51. R. STRAUSS: Song, "Traum durch die Dämmerung"



In this last notice that a♯ in the second VII^{o7} seems to point to *b*, but is really enharmonic for b♭, referring to the following D.

In the next two examples there are changes (at ×) from V^7 to VII^{o7}, according to a familiar procedure, the modulation in No. 53 being a conclusive one (in the latter VII^{o7} becomes a chord of the 9th).

52. MOZART: Sonata in F

53. HOPEKIRK: Prelude

EXERCISES

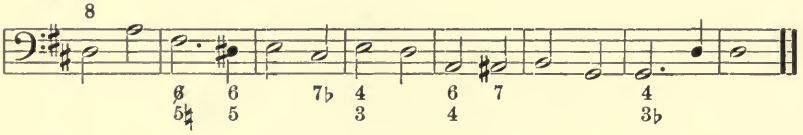
in which modulations (mostly transient) are to be made with diminished 7th chords; to be played as well as written.

1.

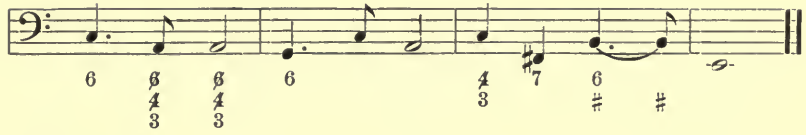
2.

3.

4.

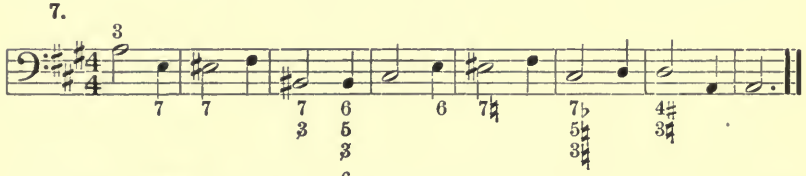


5.



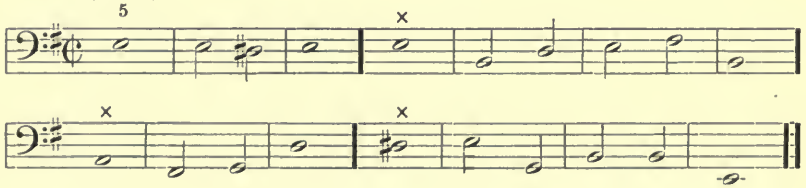
6.

7.



Unfigured basses; chords of 6, $\frac{6}{4}$, 7, etc., often required; modulations, marked with × for VII^{07}, or an inversion, are mainly transient.

8. (Chant)



9.

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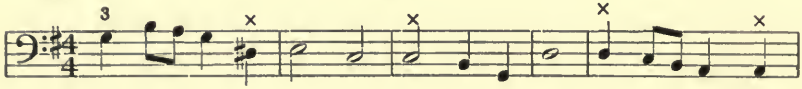
11.



12.

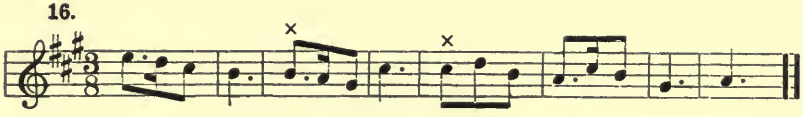
13.

Soprano melodies; notes marked with × are to be harmonized with VII^{07}, a modulation being caused in each case.

14.

15.

16.

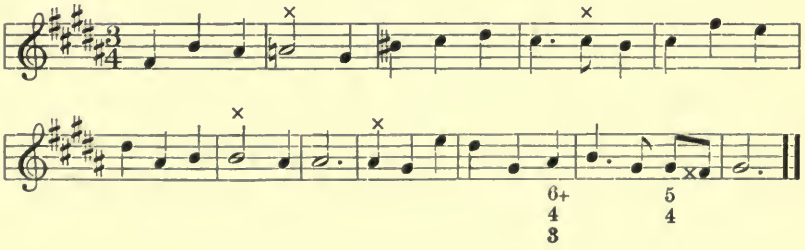


17.

18.

19.

20.



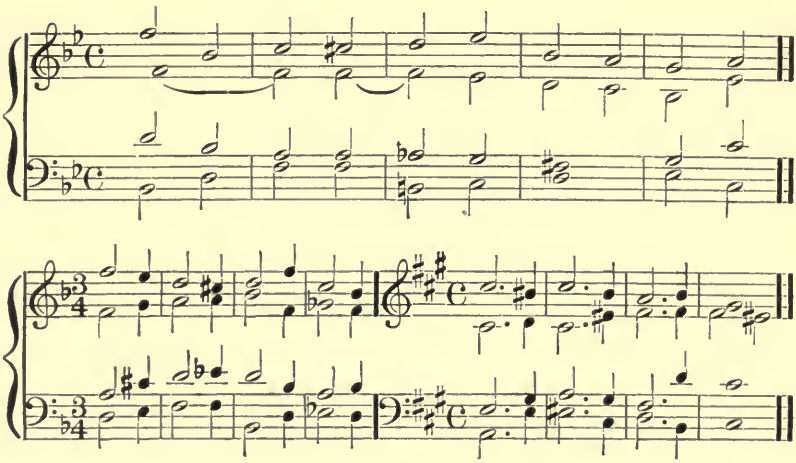
CHAPTER VIII

MODULATIONS INTRODUCED BY CHROMATIC ALTERATIONS OF THE 3D OR 5TH OF TRIADS

30. These chromatic alterations are of two kinds, of the 3d and of the 5th (in which latter case there is often a 7th present). The alteration of the 3rd, which is usually from major to minor, is very serviceable, as will be seen in the following (altered 3ds being marked ×).

The alteration in the 3d, as well as that in the 5th, results in chords that constitute rather an adjunct than a necessary factor in modulation, while also frequently offering the best and most attractive solution of the problem.

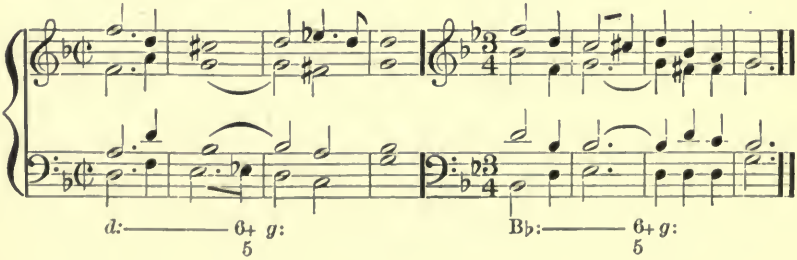
31. The 5th is augmented by raising its upper note, and, while the resulting chord is much employed harmonically, it is seldom a real element in modulation, being equally efficient in its original form without alteration, as is shown in the following.



CHAPTER IX

MODULATIONS MADE OR INTRODUCED BY CHORDS OF THE AUGMENTED SIXTH $\begin{pmatrix} 6+, & 6+, & 6+, & 6+ \\ & 5 & 4+ & 4++ \\ & & 3 & 3 \end{pmatrix}$.

32. These chords are of great use, often affording the best way of obtaining a desired result, as well as one that is quick without seeming abrupt. Their flexibility comes chiefly from the fact that any of them can be derived from a number of different keys, although the context usually shows the one to which it is actually to be referred (§33); chromatic or enharmonic changes will of course occur, all such chords being altered ones. In the following is shown how such a chord can be obtained through changes in one or more notes; observe that the lowest note is lowered, or the top one raised, and that even both of these things may happen.



It is seen that the same $\frac{6+}{5}$ chord is in these examples derived in various ways (in two of them by enharmonic change) after passages occurring in the keys of *d*, B♭, F, *b* and *f*.

33. But while such is the case with regard to this and the other augmented chords of the 6th, it is nevertheless well to remember in modulating that a 6+ chord may often properly be assumed to result from the first inversion of the fourth triad of the minor scale (which is of course the second triad of the relative major scale), a $\frac{6+}{4+}$ from the second chord of the seventh $\frac{}{3}$ and a $\frac{6+}{5}$ from the fourth chord of the seventh of the minor scale; the context will show whether this is the case.

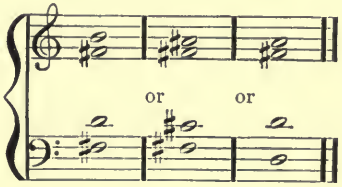
For *e.g*

are probably derived

thus,

while the

natural resolution will be



It is seen

from

how

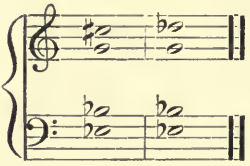
quickly and easily a modulation can be made.

Or, to illustrate further, if we are in the key of *e* and wish to modulate to D or to *b* the $\frac{6+}{4+}_{3}$ chord used below may logically be regarded as derived from the second chord of the 7th in the scale of *b* (the seventh chord of the 7th in D).

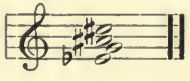
34. There are two points of importance which add to the availability of these chords;

(1) that they all resolve with equal naturalness to a major key, and to its relative minor,

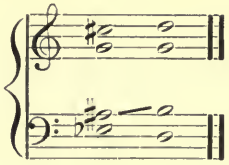
and (2) that one of them $\left(\text{the } \frac{6+}{5}\right)$ is in sound practically (in the case of the organ and piano absolutely) identical with V^7.



In the following example we have both of these points shown, at (*a*) and (*b*) the different resolutions and at (*c*) the identity in sound.

35. Attention should be called to the fact that, for convenience in writing, the $\frac{6+}{5}$ chord may be noted as one with a doubly augmented 4th $\left(\begin{matrix}6+\\4++\\3\end{matrix}\right)$  in which case we shall probably find the res-

olution to be to a major $\frac{6}{4}$ chord.



54. ROBERT FRANZ, (Song)

55. BRAHMS: Intermezzo, Op. 117, No. 2

56. SCHUBERT: Symphony in B minor

57. PARRY: "L' Allegro ed Il Pensieroso"

58. CONVERSE: "The Pipe of Desire"

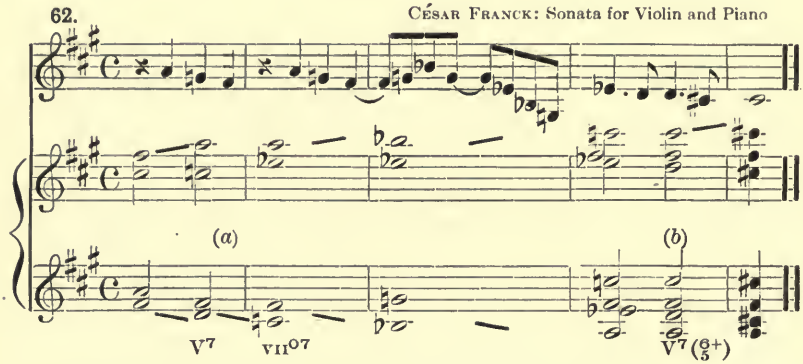
59. PARKER: "Morven and the Grail"

In measure 3, B♭: $V^7 = A: \frac{6+}{5}$ (enharmonic).

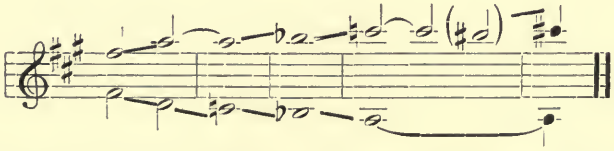
60. BRAHMS: Symphony in *c*

61. PAINE: "Oedipus Tyrannus"

62. CÉSAR FRANCK: Sonata for Violin and Piano



In No. 62 the chord at (*a*) is written as a V^7 because of the feeling that there is at this point of the key of G or *g*; with the VII^{o7}, which follows, the resolution is to a $\frac{6}{4}$ of the chord of E♭, but after its reappearance it is (at *b*) succeeded by an apparent V^7, this latter, however, being so written (instead of as a $\frac{6+}{5}$) for convenience. Observe the regular melodic progression of soprano and bass (§36).



This is a suitable place for referring to the Neapolitan 6th as a real factor in modulation (*cf.* the first movement of Beethoven, Op. 27, No. 2).

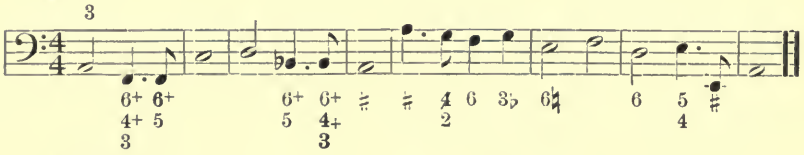
63. A. WHITING: Humoreske

EXERCISES

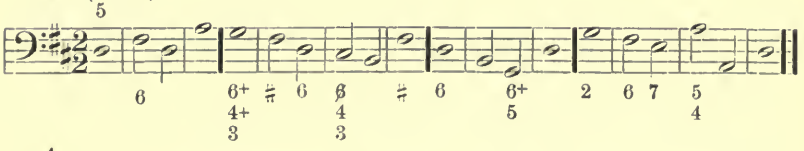
in which modulations are chiefly made with $6+$, $\begin{matrix}6+\\5\end{matrix}$, $\begin{matrix}6+\\4+\\3\end{matrix}$ (or an inversion), being mainly of a transient character; to be played at sight, as well as written.

1.

2.



3. (Chant)



4.

5.

6.

7.

Unfigured basses: augumented chords of the 6th, (or an inversion), are marked with ×, which in each case signifies a modulation.

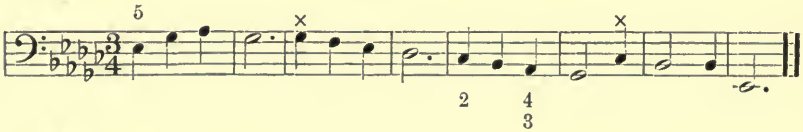
8.

9.

10.

11.

12.



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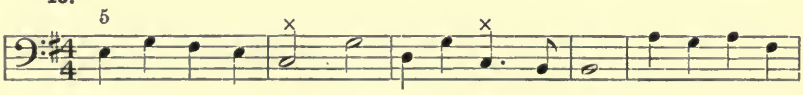
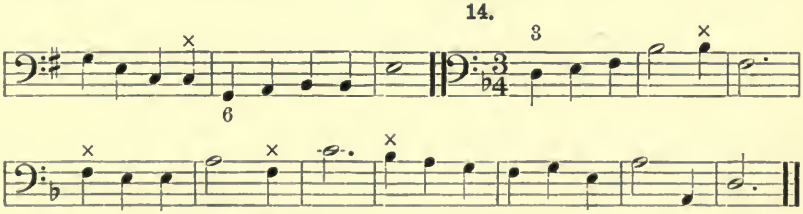


14.



Soprano melodies. Notes marked with × indicate modulations to be made with $\frac{6+}{5}$ etc., or an inversion.

15. (Hymn-tune)

16.
17.
18.
19.
V7
II7
20.
In F

CHAPTER X

HARMONIC CHANGES (SOMETIMES WITH MODULATION), RESULTING FROM THE SYMMETRICAL MOVEMENT OF INDIVIDUAL VOICES, CHIEFLY BY STEPS AND HALF-STEPS

36. The progression in the illustration from Franek's Violin Sonata (No. 62) is aided by melodious movement of the soprano and bass, which latter proceed mainly by steps and half-steps; this idea, as systematically applied to the leading of two or more voice-parts, has been developed in recent years, Wagner being largely responsible for the attention paid to it. It results in an efficient, subtle and flexible instrument not only for producing quick and interesting harmonic changes, but also sometimes for introducing or causing a modulation (*e.g.*, Nos. 72, 73). As a rule, however, the operation of this device comes under the classification of Change of Keys or Chords without Modulation (Chapter III), the value of the scheme lying mainly on its harmonic side. The question is definitely summed up by Parry in his article on *Harmony* in Grove's *Dictionary of Music*, in which he calls attention to the fact that polyphony is the root of the matter: "The essential fundamental chords are but few, and must remain so, but the combinations which can be made to represent them on the polyphonic principle are almost infinite. By the use of chromatic passing and preliminary tones, by retardations, and by simple chromatic alterations of the notes of chords according to their melodic significance" (*i.e.*, of the separate voices) "combinations are arrived at that puzzled and do puzzle theorists who regard harmony as so many unchangeable lumps of chords which cannot be admitted in music unless a fundamental bass can be found for them."

37. The first suggestion of the idea appears in the following wellknown scheme, which is made further available by the frequent chance afforded for enharmonic changes,

for any one of these chords can be taken as the point of departure into a new key, *e.g.* (the entrance of the definite key being marked by an ×).

A number of examples of such chord-successions are given below, as well as illustrations from various composers, in all of which the individual movement of voices, up or down, is shown by the lines / and \ ; in some cases there is real modulation.

1.

2.

3.

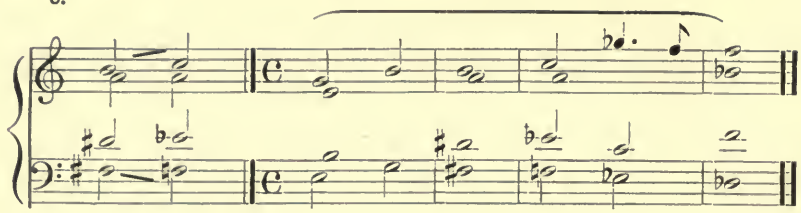
4.

5.

6.

7.

8.



9.

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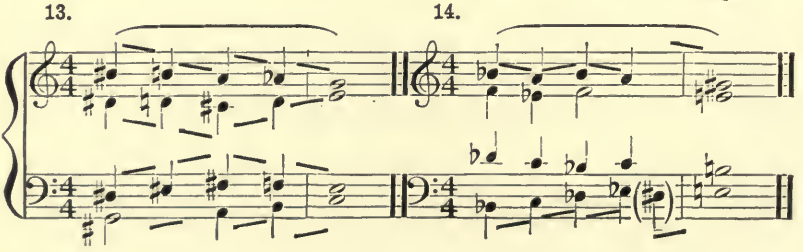
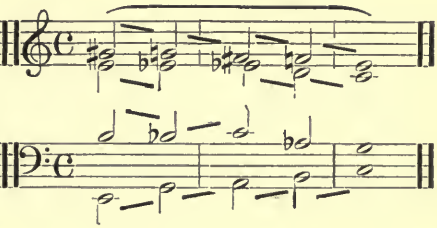


14.

15.

16.



17.

18.

64. RAFF: "La Fileuse"

(Chords only.)

65. WAGNER: "Die Walküre"

66. FRANCK: Chorale in *a* for organ

In these measures of Franck's *Chorale* the change is effected as follows,

while here are examples of a few of the modulations that could be brought about with these two chords by the device shown in §37.

67. PIERNÉ: "The Children's Crusade"

68. MASSENET: Song, "Poëme du Souvenir"

69. DEBUSSY: Nocturne

70. STILLMAN KELLEY: "The Pilgrim's Progress"

71. BIZET: "Carmen"

72. PALMGREN: "The Swan"

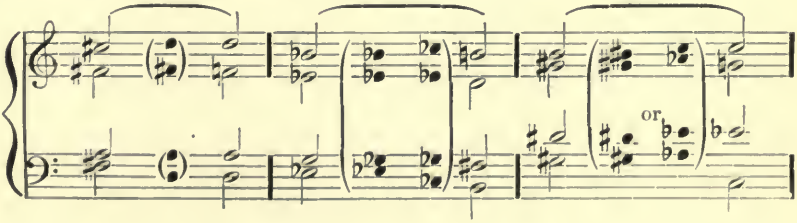
73. LOEFFLER: Song, "The Hosting of the Sidhe"

CHAPTER XI

HARMONIC CHANGES RESULTING FROM THE ELISION OF CHORDS

38. A striking and suggestive development in harmony has resulted from this device of omitting one or more links in a succession of chords which touch various keys that superficially do not seem near to each other; if the omitted steps are supplied the progression becomes commonplace, though logical enough, the really close relationship of the keys then becoming apparent, as will be seen in the following, in which the chords elided in No. 77 are added (and marked with an ×).

In the next specimen examples the omitted steps are shown by parentheses, whatever attractiveness there may be in the progressions being lost if these elided chords are added.



With this elision of chords, as is shown in the subsequent illustrations, progressions appear that are subtle and fascinating, — even puzzling to a listener unfamiliar with the procedure; here again we have what is simply a succession of keys (or chords) without modulation of the customary sort (§14).

It is also true (as was the case with the device discussed in the preceding chapter) that this scheme is rather of harmonic interest and value than applicable in modulation, for it is available more as an adjunct than as a final means.

The two following examples show this; it will be seen that the chords marked × in each case begin a normal modulation, this rapid way of getting to them being sometimes well worth while; for the road between G♭ and *g*, and C and *f*♯ is by no means an obvious one.

In these illustrations third-relationship is clear; there are, however, great differences in the attractiveness of such changes of key; in No. 10 (Chapter III), in which the change of tonics is purely one of an ordinary succession of keys, there is lacking the piquant element of unexpectedness felt in Nos. 11 and 13. The following table gives the most striking of these third-relationships.

74. WAGNER: "Parsifal"

(In No. 74, d♭–a♮ is enharmonically equivalent to the 3d, c♯–a).

75. CÉSAR FRANCK: Piano Quintet

In the following from Liszt there is a drop downward of a major 3d from V^7 of C♯ to the tonic of *e* minor, the tonics of *c*♯ and E being elided.

76. LISZT: Sonetto 104 del Petrarca

77. WAGNER: "Parsifal"

78. MACKENZIE: "Dream of Jubal"

In choosing keys for different movements of a composition, or for sections of a piece, this idea is sometimes carried out. In the following the steps between E♭ and *b* are as follows, — *e*♭ and G♭ (f♯, the dominant of *b*), being in fact supplied by the composer in a modulatory passage.

79. SCHUBERT: Impromptu, Op. 90, No. 2

CHAPTER XII

A TABLE OF MODULATIONS

39. IN the following modulations the chief objects aimed at are clearness and simplicity; the one first given is in each case offered merely as being the shortest way (not always a desirable one), while in the others it has been intended to furnish a fairly musical road between the two keys. Another form is also to be recommended in some cases, *i.e.*, to proceed from a key to its dominant (with minor keys to the dominant with minor third), and to then consider that dominant as a new tonic from which another similar

progression is made to the dominant of the latter, this last being regarded as the final tonic; *e.g.*, C to G (I–V) then, regarding G as I, G to D (I–V), in this way progressing from C to D with smoothness and in a manner that will at least pass muster musically; similarly in minor keys (*a* to *e*, and then *e* to *b*). A like procedure may be employed with sub-dominants (C to F and then F to B♭; *a* to *d* and *d* to *g*).

40. While the authentic cadence has long been recognized as useful, through the extremely definite character which it possesses, it is far from necessary; a plagal one, perhaps strengthened by II^7, is quite conclusive, forming a desirable alternative (*a*); neither need there be any alteration of notes by ♯, ♭ or ♮ (*b*); as the authentic cadence can be quite as well introduced by IV^7 (*c*), II^7 (*d*) ,or a suspension (*e*), the use of the $\frac{6}{4}$ chord is by no means the only way of enforcing this cadence.

41. In forming a general scheme of modulations, the plan is adopted of starting in each case with the key of C or *c*; the figures II, etc., indicate the degree of the scale to which the modulation is to progress, all alterations by accidentals being included, *e.g.*, C to D♯ (E♭), D♭, etc.; while in case a scale is impractical in one form with sharps or flats, the convenient alternative is offered (*e.g.*, not D♯ but E♭).

It is, of course important to transpose in all cases. The use of suspensions, appoggiaturas, passing-notes and occasional chromatic alterations is desirable, as making modulations more musical and interesting as well as more flexible.

In (*a*) there is $I^{\frac{6}{4}}$–V, (*b*) II^7–V, (*c*) a suspension to V, (*d*) a suspension introduced by II^7, (*e*) VII^7 introduced by II^7, and (*f*) V introduced by an appoggiatura.

C to *g*. A desirable way is given by the second one, in which the first b♭ takes us out of C, but leaves a doubt as to what key is coming (intensified by the ambiguous VII°7), until a V7 settles the question; much of the naturalness results from VII°7.

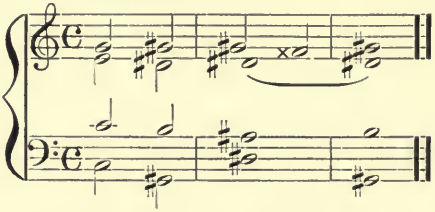
This modulation can also be effected through subdominants, and then to relative minor (C to F, F to B♭, B♭ to *g*):

C to G♭ (F♯) : *cf* : C–F♯ (I–IV).

C to *g*♭ (*f*♯) : *cf* : C–*f*♯ (I–IV).

C to G♯ (A♭) : *cf* : C–A♭ (I–VI).

C to *g*♯ (*a*♭)



c to G (or *g*)

c to *g*. In the next one the principle is followed of going a step beyond *g* by passing through *d* (§26); the return to *g*, as final, is rendered attractive by this device. The *Tierce de Picardie* enables us to end in G as well.

A longer modulation is, however, preferable.

c to *g*♭ (*f*♯) : *cf.* *c*–*f*♯ (I–IV).
c to G♯ (A♭) : *cf.* *c*–A♭ (I–VI).
c to *g*♯ (*a*♭) : *cf.* *c*–*a*♭ (I–VI).

I–IV

C to F

C to *f*. Observe that the chord of the 6th is also an efficient factor in a cadence, as well as a pleasant change from the $\frac{6}{4}$ chord: the VII^{07} adds interest to the second example.

The ambiguous VII°7 is an aid to this very remote modulation; the first two measures can also be used in the modulation C to *b*.

C to *f*♯. The same as the preceding, except that the last four measures will be in *f*♯.

c to F

c to *f*

c to F♯ (G♭): *cf.* *c*–G♭ (I–V).

This can also be made by traversing several keys according to the Circle of Fifths, although the process is rather mechanical (*c*–G–*e*–B or *b*–F♯).

In (*a*) the augmented $\frac{6+}{5}$ shows itself as especially available, resolving to both major and relative minor keys: the ending is modal. In (*b*) there is no alteration by accidentals, the chord of F major being a Bridge Chord; this modulation is, however, not so strong as the other two.

C to A♭

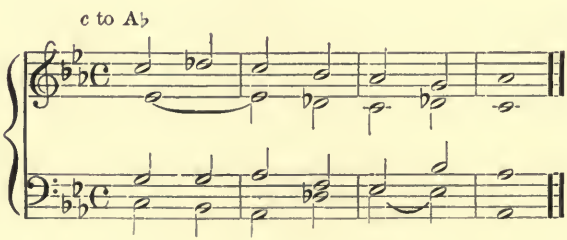
C to $a\flat$ ($g\sharp$): *cf.* C–$g\sharp$ (I–V).
C to A♯ (B♭): *cf.* C–B♭ (I–VII).
C to $a\sharp$ ($b\flat$): *cf.* C–$b\flat$ (I–VII).

c to A

The progression ⌐‾‾‾‾¬ is useful when it is desired to quickly get away from a key, the second chord under it being neutral, and available as a Bridge Chord, *e.g.*

The progression can be made through *g* and *d* to A, as follows.

c to *a*. The modulations *c* to A can be used for this one also by simply changing the last chord to *a* minor.



This obscure modulation is aided by VII^{07}.

c to A♯ (B♭): *cf.* *c*–B♭ (I–VII)
c to *a*♯ (*b*♭): *cf.* *c*–*b*♭ (I–VII).

I–I

C to C♭ (B): *cf.* C–B (I–VII).
C to *c*♭ (*b*): *cf.* C–*b* (I–VII).
C to C♯ (D♭): *cf.* C–D♭ (I–II).
C to *c*♯ (*d*♭).

c to C♭ (B): *cf.* *c*–B (I–VII).
c to *c*♭ (*b*): cf. *c*–*b* (I–VII)
c to C♯ (D♭): *cf.* *c*–D♭ (I–II)
c to *c*♯ (*d*♭).

Or through *d* and A, and then arriving at c♯ by a $\frac{6+}{5}$ chord; the passing note d♯ contributes to the naturalness of this progression.

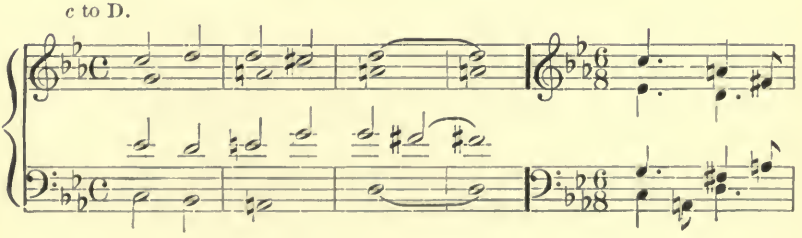
I–II

C to D. A fairly musical way of obtaining this unpromising modulation is by the enharmonic change at $\frac{6+}{4+}$.
3

The following is practicable, but too abrupt.

Or by means of a complete modulation to G, followed by a similar one to D.

Or to D♭ through a previous modulation to A♭.
C to *d*♭ (*c*♯): *cf.* C–*c*♯ (I–I).
C to D♯ (E♭): *cf.* C–E♭ (I–III).
C to *d*♯ (*e*♭): *cf.* C–*e*♭ (I–III).



c to *d*.

c to D♭.

c to *d*♭ (*c*♯): *cf.* *c*–*c*♯ (I–I).
c to D♯ (E♭): *cf.* *c*–E♭ (I–III).
c to *d*♯ (*e*♭): *cf.* *c*–*e*♭ (I–III).

I–III

C to E

C to *e*

C to E♭

C to *e*♭

This gradual progression through *f*, *b*♭, G♭ to *e*♭ is preferable to shorter modulations; the link of G♭, however, could be omitted without disadvantage.

c to e♭

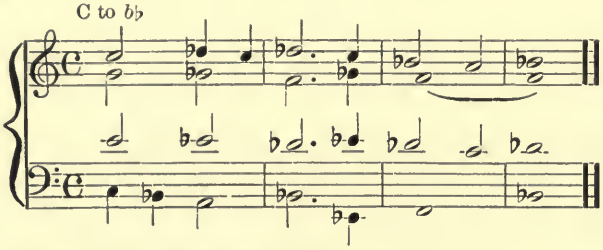
I–VII

C to B

C to *b* The preceding modulation is also practicable for *b*.

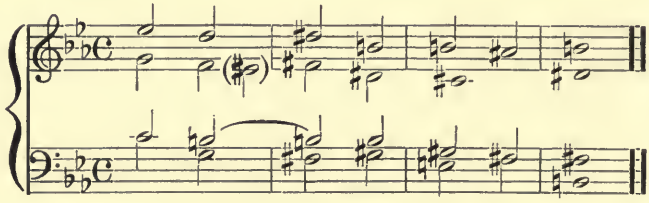
C to B♭

C to $b\flat$



Or C to *f* or F, and then to $b\flat$

c to B



6+ 6
5 4

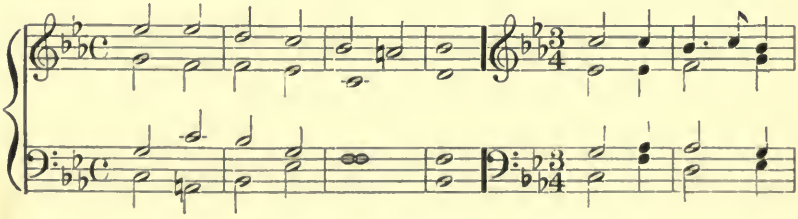
V of $c\sharp$

The enharmonic change facilitates the progression.

c to *b*

Observe that while the change from *c* to *b* can be made instantly by the enharmonic alteration ($V^7 - \frac{6+}{5}$), the modulation must be considerably lengthened if it is to appear as a natural musical expression.

c to B♭



Or from *c* to *f*, and then to *b*♭.

Modulate by playing or writing — *g* to E♭; *f*♯ to E; A♭ to *f*; E to *g*♯; *f* to D♭; *b*♭ to G♭; *f*♯ to G through D; *e* to F♯ through *b*; E to C through *a*; D to B♭ through *g*; F♯ to *g* through *b* and D; A♭ to *g* (by $\frac{6+}{5}$); A to *g*♯ through *c*♯ (VII°⁷); B to G through *e*; D♭ to F through *b*♭ (VII°⁷); E♭ to A through *g* and D; F to E♭ through B♭ and *g*; G♭ to *b* (enharmonic); B♭ to D through *g*; D to *f*♯; E to F through *a*; A♭ to *b*♭ through D♭; G to *f*♯ through *b*; G to E♭ through *c*; B to E♭ through *g*♯ (enharmonic); E♭ to C♭ through *a*♭; E to F through *a*; D♭ to b♭ (by $\frac{6+}{5}$); *a* to *g* through *d*; *a* to *f* through F and *b*♭.

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